

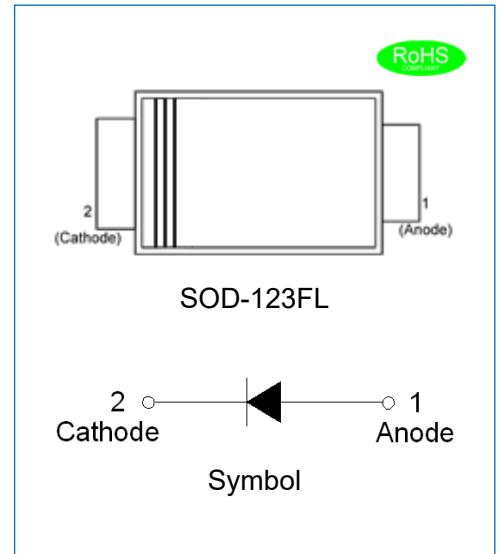


US1000FL~US1010FL
ULTRA FAST RECOVERY RECTIFIER

Rev.2.5

DESCRIPTION

- ✧ Plastic package has underwriters laboratory flammability classification 94V-0
- ✧ For surface mounted applications in order to optimize board space
- ✧ Glass passivated chip junction
- ✧ Lead free in comply with EU RoHS 2011/65/EU directives
- ✧ Ultrafast recovery time for high efficiency



MECHANICAL DATA

- ✧ Case: SOD-123FL, molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Polarity: Color band cathode
- ✧ Weight: 0.0144 gram

ABSOLUTE MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified.)

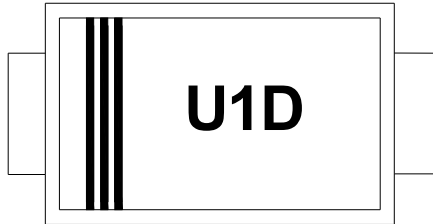
Parameter	Symbol	US1000 FL	US1001 FL	US1002 FL	US1004 FL	US1006 FL	US1008 FL	US1010 FL	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Average forward current at $T_L=75^\circ C$	$I_{F(AV)}$	1.0							A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Maximum forward voltage @ $I_F=1A$	V_F	1.0		1.3		1.7		V	
Maximum DC reverse current at rated DC blocking voltage	$T_j=25^\circ C$	5.0							μA
	$T_j=150^\circ C$	200							μA
Typical junction capacitance $V_R=4.0V, f=1MHz$	C_J	10				8			pF
Operating junction and storage temperature range	T_j, T_{stg}	-55 to +150							$^\circ C$
Maximum reverse recovery time $I_F=0.5A, I_R=1A, I_{rr}=0.25A$	t_{rr}	50				75			ns

THERMAL RESISTANCES

Symbol	Parameter	US1000 FL	US1001 FL	US1002 FL	US1004 FL	US1006 FL	US1008 FL	US1010 FL	Unit
$R_{th(j-l)}$	Junction to lead(note1)	20							$^{\circ}C/W$

Note1: Thermal resistance from junction to lead mounted on P.C.B. with 4.0 mm x 4.0 mm copper pad areas.

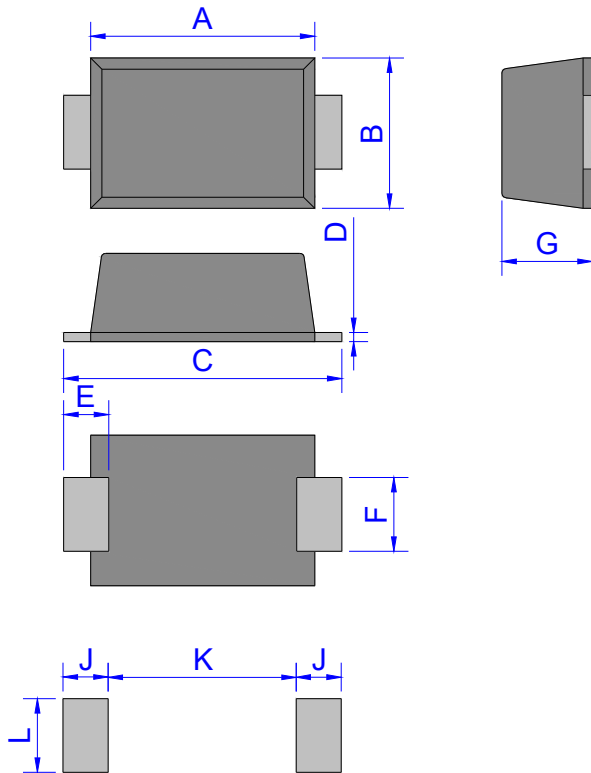
MARKING



U	Ultra Fast Recovery Rectifier
1	$I_{F(AV)}=1A$
D	$V_{RRM}:200V$

A:50V B:100V D:200V G:400V J:600V K:800V M:1000V

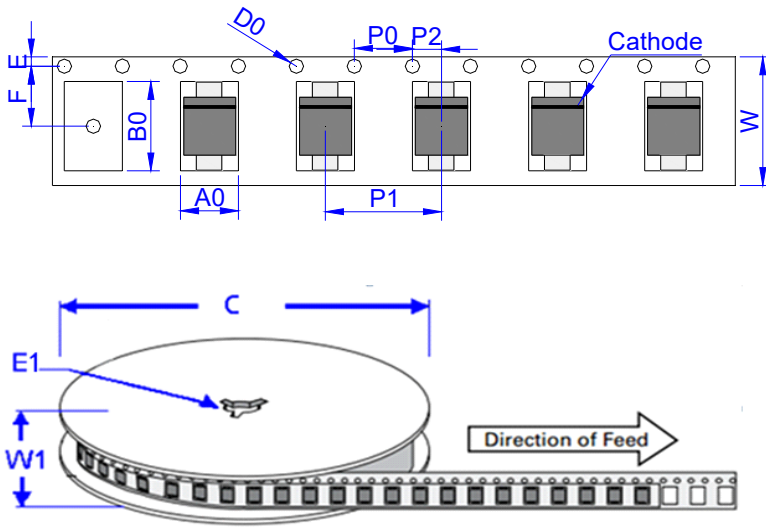
PACKAGE MECHANICAL DATA



SOD-123FL

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.01
E	0.3	0.9	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.95	1.35	0.037	0.053
J	1.30		0.051	
K		1.70		0.067
L	1.30		0.051	

TAPE AND REEL SPECIFICATION-SOD-123FL



Ref.	Dimensions	
	Millimeters	Inches
A0	1.95 ± 0.3	0.077 ± 0.012
B0	3.95 ± 0.3	0.156 ± 0.012
C	178	7.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	3.50 ± 0.2	0.138 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	4.00 ± 0.2	0.157 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	8.0 ± 0.2	0.315 ± 0.008
W1	11.5 ± 1.0	0.453 ± 0.039

OUTLINE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	0.0144	3,000	150,000	178

CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics (25°C)

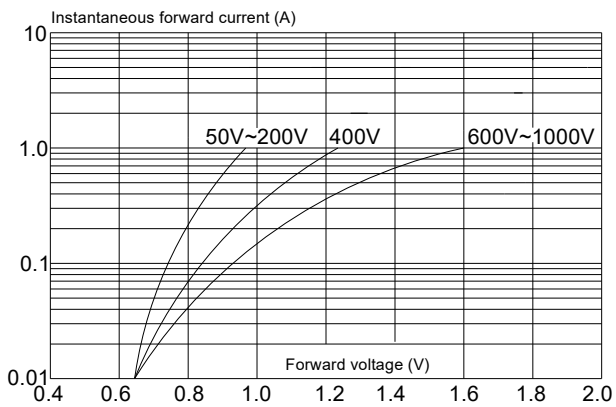


FIG.2: Typical reverse characteristics

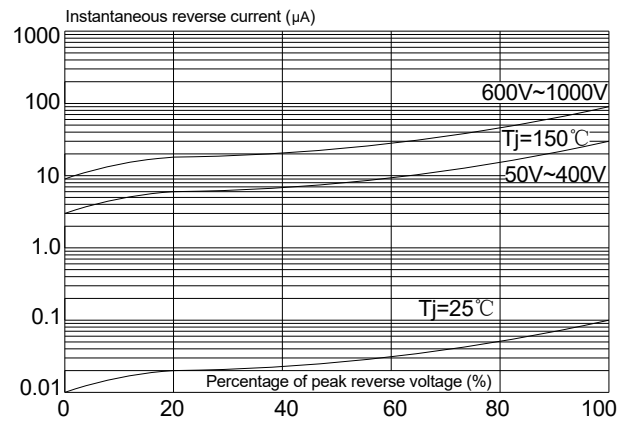


FIG.3: Maximum non-repetitive peak forward surge current

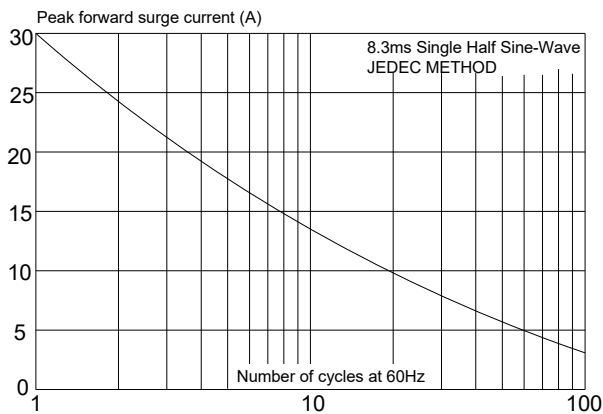
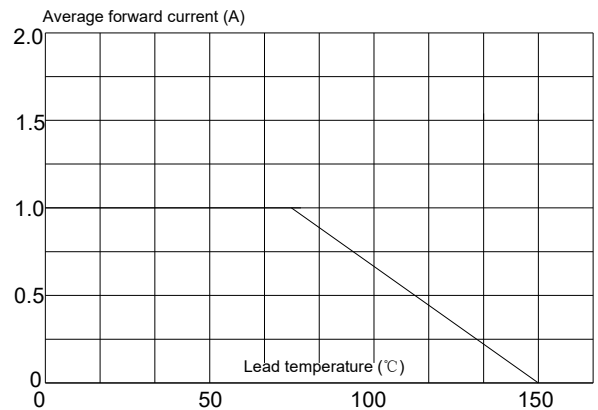


FIG.4: Forward current derating curve



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